

CLAIMS ON APPEAL

21. A modular basal thumb joint implant comprising the following parts:

a head including a single, smooth, generally hemispherical, medio-proximally directed, articulating surface, and a generally abrupt, distally directed, planar end to the head which defines an end to said articulating surface and has a center, said articulating surface being continuous as to its sphericity and uninterrupted up to the end of said articulating surface so that said articulating surface defines a truncated ball of a shape that is from substantially hemispherical to greater than substantially hemispherical; and

a stem, which is attachable to the head, and which, when attached to the head, projects from the head along an axis, which arises from the generally planar end to the head and includes at least one of the following features:

- A) a general angle of projection from the head that is acute in relation to the generally planar end to the head;
- B) a flanged cross-sectional stem profile, which, when taken in cross-section perpendicularly to the stem, is in a tri-flange shape, with three flanges without notches extending distally on the stem;
- C) an inwardly curved stem;
- D) an eccentric head site for the stem, which is offset from the center of the generally planar end of the head;

wherein said implant has its head of a size for mounting in and articulating with a correspondingly concavely prepared surface of

trapezium bone stock, and its stem of a size for intramedullary insertion in metacarpal bone stock.

22. The implant of claim 21, which has at least the general angle of projection from the head which is acute in relation to the generally planar end to the head.

23. The implant of claim 21, which has at least the flanged cross-sectional stem profile.

24. The implant of claim 21, which has at least the inwardly curved stem.

25. The implant of claim 21, which has at least the eccentric head site for the stem.

26. The implant of claim 22, which further includes at least one of the flanged cross-sectional stem profile, the inwardly curved stem, and the eccentric head site for the stem.

28. The implant of claim 21, wherein the head has a stem trunion receiving cup in the generally planar end to the head, and the stem has a trunion for being received in said cup.

29. The implant of claim 22, wherein the head has a stem trunion receiving cup in the generally planar end to the head, and the stem has a trunion for being received in said cup.

31. The implant of claim 28, which has tapered walls to said cup and said trunion for securing the head and stem together.

32. The implant of claim 29, which has tapered walls to said cup and said trunion for securing the head and stem together.

34. The implant of claim 21, wherein the head is made of a

suitable ceramic material, and the stem of a suitable metal.

35. The implant of claim 22, wherein the head is made of a suitable ceramic material, and the stem of a suitable metal.

36. The implant of claim 28, wherein the head is made of a suitable ceramic material, and the stem of a suitable metal.

37. The implant of claim 21, wherein the head has a 13-mm to 19-mm diameter.

40. In a basal thumb joint implant, which includes a head of a size and having an articular surface for mounting and articulating in association with a correspondingly concavely prepared surface of trapezium bone stock, and a stem of a size for intramedullary insertion in metacarpal bone stock, the improvement which comprises head and stem modularity such that the head is removably attachable to the stem.

41. The improvement of claim 40, wherein the head has a non-articular surface opposing the articular surface, and the head is attachable to the stem with a general angle of projection of the stem from the head that is acute in relation to the non-articular surface of the head.

42. The improvement of claim 40, which includes for bone interface a porous coating.